

# इंटरनेट

# मानक

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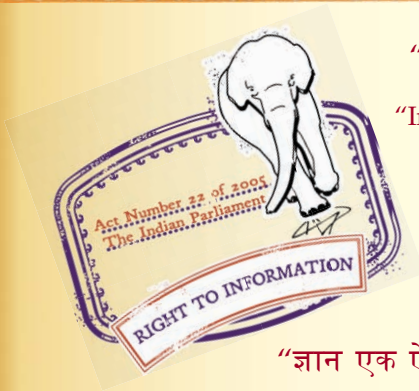
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“Step Out From the Old to the New”

IS 11987 (1986): Wax-emulsion for leather finishing [CHD  
17: Leather, Tanning Materials and Allied Products]



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“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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*Indian Standard*

**SPECIFICATION FOR  
WAX-EMULSION FOR LEATHER FINISHING**

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**BUREAU OF INDIAN STANDARDS**  
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**IS : 11987 - 1986**

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# *Indian Standard*

## SPECIFICATION FOR WAX-EMULSION FOR LEATHER FINISHING

### 0. FOREWORD

**0.1** This Indian Standard was adopted by the Indian Standards Institution on 24 December 1986, after the draft finalized by the Tanning Materials and Allied Products Sectional Committee had been approved by the Chemical Division Council.

**0.2** Wax-emulsions manufactured from various waxes are readily available in the market and are extensively used as one of the leather finishing auxiliaries. The main use of wax-emulsion is to impart smoothness, suppleness, glaze the top coat, prevent sticking of leather while plating, increase the water-repellent properties, give slight waxy feel to the finished leather surface, etc.

**0.3** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960\*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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### 1. SCOPE

**1.1** This standard prescribes the requirements, and methods of sampling and test for wax-emulsion for leather finishing.

### 2. REQUIREMENTS

**2.1 Description** — The material shall be manufactured from hard or soft bleached waxes emulsified with suitable emulsifying agent. The material shall be a viscous liquid or an aqueous colloidal dispersion of waxes and other suitable material required for the purpose. It shall be free from gritty material and mould growth.

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\*Rules for rounding off numerical values (*revised*).

**2.2 Sediment** — The material shall not contain more than one percent sediment, when tested as prescribed in Appendix A.

**2.3 Stability** — The material shall be stable emulsion. It shall exhibit no gelling, creaming which is dispersable on freezing when kept in closed containers at any temperature between 10 to 50°C.

**2.4** The dried surface of the leather piece shall be non-tacky, when tested as prescribed in Appendix B.

**2.5 Emulsion Characteristics** — The material shall form a ready emulsion in hot or cold water in any dilution.

**2.6** The material shall also comply with the requirements given in Table 1.

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**TABLE 1 REQUIREMENTS FOR WAX-EMULSION FOR LEATHER FINISHING**

SL No.	CHARACTERISTIC	REQUIREMENTS	METHOD OF TEST ( REF TO APPENDIX )
(1)	(2)	(3)	(4)
i)	Total solid content of the material, percent by mass, <i>Max</i>	20.0	C
ii)	Melting point of the total solid in °C, <i>Min</i>	55	D
iii)	Ash content of the total solid, percent by mass, <i>Max</i>	1.0	E

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### 3. PACKING AND MARKING

**3.1 Packing** — The material shall be packed in glass or plastic containers or other containers as agreed to between the purchaser and the manufacturer.

**3.2 Marking** — The following particulars shall be clearly indicated on the outside of the containers:

- a) Manufacturer's name and/or its trade-mark, if any;
- b) Net mass of the material;
- c) Name of the material;
- d) Batch/Code No.; and
- e) Month and year of manufacture.

### 3.2.1 The containers may also be marked with the Standard Mark.

**NOTE**— The use of the Standard Mark is governed by the provisions of the Bureau of Indian Standards Act 1986 and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers, may be obtained from the Bureau of Indian Standards.

## 4. SAMPLING

**4.1** The method of drawing representative samples for tests and the criteria for conformity shall be as prescribed in Appendix F.

## A P P E N D I X A

( Clause 2.2 )

### DETERMINATION OF SEDIMENT

#### A-1. PROCEDURE

**A-1.1** Shake the material ( about 200 ml ) well to get a homogeneous mixture. Take a suitable volume of the material and filter through a sintered glass crucible or a Whatman filter paper No. 42 or its equivalent with proper stirring. Dry the residue to constant mass at  $100 \pm 5^{\circ}\text{C}$ . Alternatively, centrifuge a suitable volume of the material for 15 minutes at approximately 4 000 rev/min. Decant all the supernatant layer and transfer the sediment to a filter paper or crucible. Dry to constant mass at  $100 \pm 5^{\circ}\text{C}$ . Express the results in percentage mass per volume basis.

## A P P E N D I X B

( Clause 2.4 )

### DETERMINATION OF TACKINESS

#### B-1. PROCEDURE

**B-1.1** Leather upper piece of size  $200 \times 200$  mm shall be used for testing. Clean the grain surface with a cloth or brush to remove any

adhering dust particles. Apply the emulsion in a film to the smooth grain surface using a rag or brush, after two minutes place the leather piece which has been allowed to dry 5 to 10 minutes on the pan of a suitable physical balance and counterpoise it with weights. Place an additional weight of 2.5 kg and press the treated surface with thumb till the two pans of the balance are counterpoised. Keep the thumb in this position for one minute and then slowly release.

**B-1.2** There shall be no sign of stickness of the thumb. The thumb impression, if produced, shall be such that it shall be wiped out with a cloth or brush.

## APPENDIX C

[ Table 1, Sl No. (i) ]

### DETERMINATION OF TOTAL SOLID CONTENT

#### C-1. PROCEDURE

**C-1.1** Weigh about 20 g of the material in a stainless steel, glass or porcelain container of not more than 10 cm diameter with a lid. Place the container on a steam-bath without the lid till the bulk of volatile matter is evaporated off. Dry the residue at  $100 \pm 5^\circ\text{C}$  in an oven for 4 hours or more. Cool in a desiccator and weigh. Repeat the heating, cooling and weighing till two consecutive readings at an interval of one hour are constant.

#### C-2. CALCULATION

**C-2.1** Total solid content,  
percent by mass  $= 100 \times \frac{M_2}{M_1}$

where

$M_2$  = mass in g of the residue after drying, and

$M_1$  = mass in g of the material taken for the test.

## APPENDIX D

[ Table 1, Sl No. (ii) ]

### DETERMINATION OF MELTING POINT

#### D-1. PROCEDURE

**D-1.1** Fill a capillary tube with a few milligrams of the total solid as obtain in **C-1.1** so that a column of the material about 5 mm high is

obtained. Pack the material by tapping lightly on a rigid surface and determine the melting point in any standard melting point apparatus with a thermometer graduated at each 0.1°C.

## APPENDIX E

[ Table 1, Sl No. (iii) ]

### DETERMINATION OF ASH CONTENT OF TOTAL SOLID

#### E-1. PROCEDURE

**E-1.1** Weigh about 20 g of the material in a nickel or stainless steel crucible ( 60 to 80 ml capacity ) and evaporate on a steam-bath. Put the crucible in a muffle furnace and raise temperature gradually. Raise the temperature of the furnace from red hot to 700 to 800°C and heat for about two hours. Cool in a desiccator and weigh.

#### E-2. CALCULATION

$$\text{Ash content of total solid, percent by mass} = 100 \times \frac{M_2}{M_1}$$

where

$M_2$  = mass in g of the ash, and

$M_1$  = mass in g of the total solid equivalent to the mass of material taken for the test ( see **C-2.1** ).

## APPENDIX F

( Clause 4.1 )

### SAMPLING OF WAX-EMULSION FOR LEATHER FINISHING

#### F-1. GENERAL REQUIREMENTS OF SAMPLING

**F-1.0** In drawing, preparing, storing and handling test samples, the following precautions and directions shall be observed.

**F-1.1** Samples shall be taken in a protected place not exposed to damp air, dust or soot.

**F-1.2** The following instrument shall be clean and dry when used.

**F-1.3** Precautions shall be taken to protect the samples, the material being sampled, the sampling instruments and the containers for samples from adventitious contamination.

**F-1.4** The samples shall be placed in clean, dry and air-tight glass or other suitable containers on which the material has no action.

**F-1.5** The sample container shall be of such a size that they are almost completely filled by the sample.

**F-1.6** Each sample container shall be sealed air-tight after filling and marked with full details of sampling, the date of sampling and the year of manufacture of the material.

**F-1.7** Samples shall be stored in such a manner that the temperature of the material does not vary unduly from the normal temperature.

## **F-2. SCALE OF SAMPLING**

**F-2.0** To determine conformity of a consignment of wax-emulsion to this specification, samples shall be selected so as to be representative of the whole consignment. In the absence of any prior agreement between the purchaser and the manufacturer on the mode of sampling and determining the criteria of conformity, the following sampling and inspection scheme is recommended to serve as a guide.

**F-2.1 Lot** — All the containers in a single consignment of the material drawn from the same batch of manufacture and belonging to the same size shall constitute a lot. If a consignment is declared or known to consist of different batches of manufacture or of different sizes of containers, the containers belonging to the same batch and size shall be grouped together and each such group shall constitute a separate lot.

**F-2.1.1** Samples shall be tested for each lot for ascertaining the conformity of the material to the requirements of the specification.

**F-2.2** The number ( $n$ ) of containers to be chosen from the lot ( $N$ ) shall depend upon the size of the lot and shall be in accordance with col 1 and 2 of Table 2.

**F-2.3** These containers shall be chosen at random from the lot, in order to ensure the randomness of selection, some random number table as agreed to between the purchaser and the manufacturer shall be used. IS : 4905-1968\* may be referred to for random selection.

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\*Methods for random sampling.

**TABLE 2 NUMBER OF CONTAINERS TO BE  
SELECTED FOR SAMPLING**

( Clause F-2.2 )

Lot Size $N$	No. of Containers to be Chosen $n$
(1)	(2)
Up to 500	10
501 to 1 000	15
1 001 and above	20

**F-3. PREPARATION OF COMPOSITE SAMPLE**

**F-3.1** Shake well each of the containers selected in **F-2.2** and test for sediment content. Pour out a quantity of polish such that the total quantity obtained from all the containers provides materials (about 100 0 g) sufficient for all other tests. Thoroughly mix the material drawn from all the selected containers so as to form the composite sample.

**F-4. NUMBER OF TESTS AND CRITERIA FOR CONFORMITY**

**F-4.1** Test for the determination of sediment shall be done on the original containers from which no sample has been drawn.

**F-4.2** Tests for other characteristics shall be done on the composite sample.

**F-4.3** The lot shall be declared as conforming to the specification, if the test results satisfy the corresponding requirements laid down in this specification.

# INTERNATIONAL SYSTEM OF UNITS (SINUITS)

## Base Units

QUANTITY	UNIT	SYMBOL
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

## Supplementary Units

QUANTITY	UNIT	SYMBOL
Plane Angle	radian	rad
Solid angle	steradian	sr

## Derived Units

QUANTITY	UNIT	SYMBOL	DEFINITION
Force	newton	N	$1 \text{ N} = 1 \text{ kg.m/s}^2$
Energy	joule	J	$1 \text{ J} = 1 \text{ N.m}$
Power	watt	W	$1 \text{ W} = 1 \text{ J/s}$
Flux	weber	Wb	$1 \text{ Wb} = 1 \text{ V.s}$
Flux density	tesla	T	$1 \text{ T} = 1 \text{ Wb/m}^2$
Frequency	hertz	Hz	$1 \text{ Hz} = 1 \text{ c/s (s}^{-1}\text{)}$
Electric conductance	siemens	S	$1 \text{ S} = 1 \text{ A/V}$
Electromotive force	volt	V	$1 \text{ V} = 1 \text{ W/A}$
Pressure, stress	pascal	Pa	$1 \text{ Pa} = 1 \text{ N/m}^2$